

station, and the comparability of the records during a long period of time is assured by the spirit of conservatism that must animate a man who voluntarily undertakes a meteorological record and carries it along continuously for many years. The following list includes, we believe, all the cases known to the Records Division in which the same person or family has maintained a record at the same place for thirty years or more and is still reporting. Also a few observers are included who are no longer maintaining observations. If any observers are accidentally omitted from this list we hope we shall hear from them, and we shall be glad to publish their names.

A still longer list could be made of observers who have closed their work and past away. We desire short biographical sketches of each person who has thus nobly devoted himself to the recording of the weather.

In the early history of the respective stations the record books do not always clearly show the names to whom the observations should be credited, and it is hoped that any errors discovered in the names will be reported in order that proper note may be made in the books.

Station.	Length of record.	Observer.
Canton, Conn.....	45 years.....	G. J. Case.
Riley, Ill.....	47 years.....	John West James.
Vevay, Ind.....	43 years.....	Miss Frederica Boerner.
Clinton, Iowa.....	37 years.....	Luke Roberts.
Fort Madison, Iowa...	59 years.....	Doctor McCready.
		Miss Lucy A. McCready.
		Jacob Stern.
Logan, Iowa.....	38 years.....	Mrs. M. B. Stern.
		Glenn H. Stern.
Lawrence, Kans.....	39 years.....	Prof. F. H. Snow.
Cornish, Me.....	51 years.....	Silas West.
		T. H. West.
Fallston, Md.....	37 years.....	G. G. Curtis.
		J. H. Curtis.
Amherst, Mass.....	73 years.....	Prof. E. S. Snell.
		Miss S. C. Snell.
Fitchburg, Mass.....	43 years.....	Dr. Jabez Fisher.

Station.	Length of record.	Observer.
Fall River, Mass.....	40 years.....	C. V. S. Remington.
Westboro, Mass.....	32 years.....	G. S. Newcomb.
Lansing, Mich.....	45 years.....	Prof. R. C. Kedzie.
		Dr. H. B. Baker.
Thornville, Mich.....	30 years.....	J. S. Caulkins, M. D.
		Wm. Kaucher.
Oregon, Mo.....	52 years.....	G. C. Kaucher.
		Thos. Curry.
Genoa, Nebr.....	31 years.....	Geo. S. Truman.
		J. H. Foster.
Concord, N. H.....	51 years ¹	W. L. Foster.
		W. W. Flint.
		T. J. Beans.
Moorestown, N. J.....	42 years.....	John C. Beans.
South Orange, N. J....	37 years.....	Wm. J. Chandler.
Trenton, N. J.....	41 years.....	E. R. Cook.
Cooperstown, N. Y....	52 years.....	G. Pomeroy Keese.
Palermo, N. Y.....	54 years.....	E. B. Bartlett.
Cleveland, Ohio.....	51 years ²	Gustavus A. Hyde.
Jacksonburg, Ohio....	40 years.....	Dr. J. B. Owsley.
North Lewisburg, Ohio	56 years.....	H. D. Gowey.
		Dr. G. S. B. Hempstead.
Portsmouth, Ohio.....	78 years.....	Dr. D. B. Cotton.
		Dr. H. A. Schirrmann.
Wauseon, Ohio.....	37 years.....	Thomas Mikesell.
The Dalles, Ore.....	32 years.....	S. L. Brooks.
West Chester, Pa.....	52 years.....	J. C. Green, D. D. S.
Manitowoc, Wis.....	57 years.....	Jacob A. Lups.
		Miss Johanna Lups.

CORRIGENDA.

MONTHLY WEATHER REVIEW for April, 1907, Vol. XXXV, No. 4, page 173, Table 1, for 1903, line IX, column Q, for "1.011" read "1.041"; line X, column f, for "7.4" read "7.1"; year 1904, line Mean, column f, for "6.9" read "5.9". Page 175, column 2, third line from end of article, for "Table 3" read "Table 4".

¹ Established as a regular Weather Bureau station in 1902.

² Discontinued observations on December 31, 1905.

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of mean atmospheric pressure for June, 1907, over the United States and Canada is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

The balance of pressure toward the north, noted in the MONTHLY WEATHER REVIEW for May as the chief factor contributing to the unseasonable weather that prevailed east of the Rocky Mountains during that and the preceding month, continued well into June over the Great Lakes, the upper Ohio Valley, New England, and the Middle Atlantic States.

Early in the month the summer type of low pressure became established over western Texas and adjacent districts, and normal weather conditions prevailed over the Gulf States and the territory between the Mississippi River and the Rocky Mountains from Kansas southward.

Over the region north of the Great Lakes, and over New England, pressure continued comparatively high till near the middle of the month, and the absence of the usual summer type of high pressure over the South Atlantic States during that period brought the greater portion of the districts east of the Mississippi Valley under the influence of northerly and easterly winds; and cloudy, cold weather, unprecedented for June, resulted. During the latter part of the month comparatively high pressure became fairly well established over the south Atlantic coast districts, the remnant of the great area of high pressure that appears to have prevailed over the region north of the Great Lakes during the preceding months drifted eastward into the North Atlantic, and southerly winds and seasonable weather were maintained over all districts east of the Rocky Mountains until the last few days of the month.

While the establishment of the normal pressure distribution east of the Rocky Mountains was accomplished about the middle of the month, west of the mountains, especially over the middle and southern Plateau districts, high pressure was dominant until after the 20th, and seasonable weather was delayed accordingly.

The mean pressure for the month was deficient in all districts of the United States and Canada, except over the southern portions of the Plateau and Pacific coast districts, and the extreme eastern portions of the Maritime Provinces of Canada.

Over the Canadian northwest territories, the eastern slope of the Rocky Mountains, the Ohio Valley, and the Middle Atlantic States the pressure averaged .05 inch or more below the normal.

Marked deviations from the normal occurred in the change in pressure from May to June. Over the Gulf States and the Ohio and lower Mississippi valleys, where the pressure normally increases from May to June, the reverse occurred and pressure averaged decidedly lower in June than in the preceding month. Over the middle and southern Plateau districts, where pressure normally decreases as summer approaches, the average for the month was decidedly higher than in May.

Marked variations also occurred over the districts between the Great Lakes and the Rockies from Nebraska and Iowa northward into Canada, where the changes from May to June ranged from —.10 to —.25 inch.

TEMPERATURE.

The abnormal displacement of the more or less permanent areas of high and low pressure, and the corresponding deflection of the surface winds from their normal courses, that had

contributed so largely to the remarkably cold weather of the two preceding months, continued till near the middle of June over all districts east of the Rocky Mountains, except the Plains region from Kansas south and along the west Gulf States.

Over western Texas and adjacent districts warm, seasonable weather was inaugurated early in the month, and normal temperatures were generally maintained thruout the month.

The breaking up of the high-pressure area over the Great Lakes and the St. Lawrence Valley about the middle of the month, and the advent of warm southerly winds marked the beginning of seasonable weather over the northeastern districts of the United States, and the temperatures thereafter were normal or slightly above until near the close of the month.

The accumulated deficiency in the daily mean temperature during the first part of the month was so great, however, that the monthly means over the Ohio Valley and middle Atlantic coast districts were far below the average. In parts of Maryland and Virginia and in the District of Columbia the mean temperature for the month was lower than previously recorded in June during the entire period of observation—nearly one hundred years.

West of the Rocky Mountains cold weather continued until the end of the second decade of the month, due to continued high pressure, and cold northerly winds. Over portions of Utah, Nevada, Wyoming, and Idaho the temperature averaged from 6° to more than 8° daily below the normal, and the monthly means were the lowest recorded in June for more than fifty years, the period covered by observations.

The mean temperature over nearly all districts averaged considerably below the normal, the only exceptions being small areas in south-central Texas, the immediate Gulf coast, the western portions of Washington and Oregon, and a few points in the Lake Superior region.

North of the International Boundary the temperatures were more nearly normal, and in the northern districts of Canada the month appears to have been warmer than the average.

Maximum temperatures of 90°, or above, were recorded in nearly all districts, except portions of the lower Lake region, in the Appalachian Mountains, along the Pacific coast, and in the Rocky Mountains and Plateau districts.

The dates of occurrence of the higher temperatures were scattered thru the latter half of the month, and no period of continued excessive heat occurred except during the last two days of the month over portions of northern and western Texas and eastern New Mexico.

The presence of an area of low barometric pressure over that section on the 29th and 30th gave ideal conditions for the generation of hot, dry, southerly winds. Temperatures from 100° to 117° were recorded in the shade, and the accompanying dry winds were exceedingly trying to both animal and vegetable life. Maximum temperatures from 100° to 120° were also recorded over portions of southwestern Arizona and the interior of southern California.

Minimum temperatures were decidedly low, and light to killing frosts were frequent in the more northern districts during the first half of the month. Decidedly cool weather prevailed from the 13th to 19th over the middle Plateau and surrounding districts, and frosts were reported from many points in Utah, Nevada, Colorado, Wyoming, and the northern portions of Arizona and New Mexico.

PRECIPITATION.

The distribution of precipitation during June, 1907, is graphically shown on Chart IV by appropriate shading or by figures representing the actual amount of fall.

In June the area of heaviest precipitation is usually transferred from its position in May west of the Mississippi River to the Gulf and south Atlantic coasts, where the average fall ranges from 5 to 8 inches.

38—4

Over California and the southern Plateau region precipitation is usually very light, while over the Great Plains, the Missouri and Mississippi valleys, and eastern districts the fall is usually sufficient for all requirements. During the current month marked deviations from the normal occurred in the Gulf districts and in California.

The rainfall over the entire Gulf region was unusually light. Practically no rain occurred along the immediate coasts of Texas and Louisiana, and over large portions of both States the total fall was less than one-half inch. This was in marked contrast with the fall over that section in the preceding month, in which the amounts measured varied from 5 to nearly 30 inches. A similar contrast is noted over the greater part of California, where the dry weather of May was followed in June by a period of frequent showers lasting to the 14th of the month. The period from the 11th to 14th, inclusive, brought unusually heavy rains for the season to nearly all points in the State, and the monthly falls were probably greater than previously recorded in June.

Precipitation was unusually heavy over the greater portion of Montana, and especially over the part of the State just east of the main divide, where the falls were of frequent occurrence and the totals for the month ranged from 6 to 8 inches.

Over the greater part of Utah and Nevada rainfall was of frequent occurrence during the first half of the month, and the monthly amounts were far in excess of the usual fall.

Precipitation was decidedly below the normal (—2 to —4 inches) over the entire Gulf region, the central Mississippi and lower Ohio valleys, the northern portions of Minnesota and Wisconsin, and the northwestern part of Washington. It was slightly below normal over the Lake region and in portions of the upper Missouri Valley and generally deficient in the Puget Sound district.

Precipitation was largely in excess of the average over the middle Atlantic coast districts, including the mountainous portions of Kentucky and Tennessee, and also over districts west of the Mississippi River between northern Texas and southern Minnesota, including the eastern portions of Nebraska and Kansas and the whole of Oklahoma. Slight excesses occurred over northern New England, southeastern Florida, and the greater part of the territory west of the Rocky Mountains, except Washington and Oregon.

Precipitation in all portions of the United States was generally well distributed during the several periods of the month, except over the territory west of the Rocky Mountains, where most of it occurred during the first fifteen days.

Thunderstorms were of frequent occurrence and severe local storms having the characteristics of tornadoes were reported from several localities, especially North Dakota, Kentucky, Illinois, Indiana, and Kansas. A number of lives were lost and much damage done to farm and other property from sudden and heavy downpours of rain in Kentucky.

Snowfall was unusually heavy in the mountains of California, where at some of the higher elevations of the Sierra Nevadas depths as great as 4 feet were recorded.

There was considerable snowfall in all the Rocky Mountain and higher elevations of the Plateau districts, and occasional flurries over the northern tier of States as far south as Ohio, Pennsylvania, and New Jersey.

The cool weather over the mountain districts retarded materially the melting of the snow on the high ranges where, especially over the northern districts and on the high levels of the Sierra Nevadas in California, large masses of snow still remained unmelted at the end of the month, and prospects were good for an abundant supply of water thruout the summer.

HUMIDITY AND SUNSHINE.

A uniform deficiency of moisture in the atmosphere prevailed over the south Atlantic and Gulf districts, most of New England, the upper Lake region, and along the north Pacific coast.

Over all districts from the middle Atlantic coast westward thru the Ohio and middle Mississippi valleys and Plains region and the entire Rocky Mountain, Plateau, and middle Pacific coast districts, there was a decided excess of moisture in the atmosphere. Over most of the Plateau region the excess ranged from 10 to 20 per cent.

Sunshine was uniformly deficient during the first half of the month over nearly all districts east of the Rocky Mountains, while over the districts to the west cloudy weather was maintained till near the 20th.

During the latter part of the month sunshine was generally abundant and the favorable conditions as to temperature and moisture rapidly developed vegetation, promoted the progress of farm work, and materially advanced toward normal conditions an unusually late season.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	12	60.9	- 3.0	-15.4	- 3.1
Middle Atlantic	16	65.5	- 4.7	-12.2	- 2.0
South Atlantic	10	74.1	- 2.0	+ 3.0	+ 0.6
Florida Peninsula *	8	79.2	- 0.6	+10.5	+ 1.8
East Gulf	11	76.8	- 1.3	+11.9	+ 2.0
West Gulf	10	78.8	- 0.1	+13.9	+ 2.3
Ohio Valley and Tennessee	13	69.7	- 3.5	- 3.0	- 0.5
Lower Lake	10	63.9	- 3.0	-13.8	- 2.3
Upper Lake	12	62.2	+ 0.1	-10.1	- 1.7
North Dakota *	9	62.4	- 1.2	-19.4	- 3.2
Upper Mississippi Valley	15	67.7	- 3.2	- 6.5	- 1.1
Missouri Valley	12	68.8	- 2.2	- 2.5	- 0.4
Northern Slope	9	58.9	- 3.2	- 6.2	- 1.0
Middle Slope	6	70.5	- 1.2	+ 6.9	+ 1.2
Southern Slope *	7	75.8	- 0.1	+13.8	+ 2.3
Southern Plateau *	12	68.2	- 5.3	- 3.0	- 0.5
Middle Plateau *	10	58.7	- 5.5	+ 9.4	+ 1.6
Northern Plateau *	12	58.3	- 3.0	- 2.0	- 0.3
North Pacific	7	57.1	- 0.5	- 0.9	- 0.2
Middle Pacific	8	62.1	- 2.1	- 0.3	0.0
South Pacific	4	65.1	- 1.0	+ 3.8	+ 0.6

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Director R. F. Stupart says:

The mean temperature was a little higher than the average in the northern portions of Ontario, Manitoba, and Saskatchewan and on Vancouver Island, while in other parts of the Dominion it was below the average, the largest negative departure, about 4°, being in southwestern Ontario. The month opened rather cool in nearly all parts of the Dominion, but within a few days the weather became warm and seasonable. In the west no very pronounced hot spells have occurred, but in Ontario and Quebec, since the 16th, the temperature has frequently exceeded 80°, and on several days 90° has been reached in many localities.

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	5.6	+ 0.5	Missouri Valley	5.0	+ 0.2
Middle Atlantic	5.7	+ 0.7	Northern Slope	5.0	+ 0.2
South Atlantic	4.6	- 0.3	Middle Slope	4.4	+ 0.7
Florida Peninsula	4.3	- 1.8	Southern Slope	3.4	- 1.0
East Gulf	4.5	- 0.3	Southern Plateau	1.7	- 0.2
West Gulf	3.7	- 0.9	Middle Plateau	3.9	+ 0.9
Ohio Valley and Tennessee	5.3	+ 0.3	Northern Plateau	5.7	+ 0.6
Lower Lake	5.0	+ 0.1	North Pacific	6.1	0.0
Upper Lake	4.7	- 0.5	Middle Pacific	4.4	+ 1.2
North Dakota	5.5	+ 0.3	South Pacific	3.3	0.0
Upper Mississippi Valley	5.2	+ 0.2			

WEATHER IN ALASKA.

Reports from Alaska indicate the prevalence of seasonable weather. Stations as far north as the Arctic Circle show minimum temperatures well above freezing; and maximum temperatures as high as 80° occurred.

Rainfall appears to have been normal and no snow was noted as having occurred.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England	12	2.78	90	-0.3	-3.70
Middle Atlantic	16	4.65	124	+0.9	-2.50
South Atlantic	10	5.21	106	+0.3	-6.30
Florida Peninsula *	8	6.16	90	-0.7	-5.10
East Gulf	11	2.21	44	-2.8	-2.60
West Gulf	10	2.23	57	-1.7	-3.90
Ohio Valley and Tennessee	13	3.79	88	-0.5	-1.20
Lower Lake	10	3.42	94	-0.2	-1.10
Upper Lake	12	2.86	76	-0.9	-2.10
North Dakota *	9	3.04	86	-0.5	-2.30
Upper Mississippi Valley	15	4.03	89	-0.5	-1.50
Missouri Valley	12	4.62	107	+0.3	-1.50
Northern Slope	9	2.82	111	+0.3	+0.30
Middle Slope	6	3.12	103	+0.1	-1.40
Southern Slope *	7	3.64	124	+0.7	-0.90
Southern Plateau *	12	0.69	141	+0.2	+1.90
Middle Plateau *	10	0.92	177	+0.4	+1.80
Northern Plateau *	12	2.15	159	+0.8	+0.90
North Pacific	7	1.33	62	-0.8	-7.20
Middle Pacific	8	0.98	258	+0.6	+2.90
South Pacific	4	0.12	100	0.0	+1.70

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Director Stupart says:

Over the Dominion as a whole the rainfall of June was less than average, the most pronounced deficiencies occurring in southern New Brunswick, New Ontario, and in British Columbia. In Alberta the fall was nearly average, as it also was in northern New Brunswick and southwestern Ontario. Nearly all stations in the Province of Quebec recorded an excess approximating 1 inch; and western Manitoba and southern Saskatchewan also recorded an excess, and in some few localities the rainfall may have been as much as double the average amount.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	77	- 2	Missouri Valley	69	+ 2
Middle Atlantic	76	+ 3	Northern Slope	65	+ 8
South Atlantic	77	- 1	Middle Slope	62	+ 2
Florida Peninsula	77	- 3	Southern Slope	56	0
East Gulf	72	- 3	Southern Plateau	35	+ 5
West Gulf	72	- 4	Middle Plateau	48	+11
Ohio Valley and Tennessee	72	+ 3	Northern Plateau	56	+ 5
Lower Lake	72	+ 1	North Pacific	76	0
Upper Lake	71	- 2	Middle Pacific	67	+ 5
North Dakota	70	+ 2	South Pacific	66	0
Upper Mississippi Valley	74	+ 4			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex.	3	52	se.	Mount Tamalpais, Cal.	13	56	nw.
Block Island, R. I.	2	52	ne.	Do.	21	60	nw.
Duluth, Minn.	16	52	w.	Do.	23	50	nw.
Do.	17	52	nw.	Nantucket, Mass.	3	53	ne.
El Paso, Tex.	19	50	sw.	Oklahoma, Okla.	24	50	sw.
Evansville, Ind.	7	52	sw.	Pierre, S. Dak.	13	54	se.
Fort Smith, Ark.	26	54	nw.	Do.	14	50	sw.
Hatteras, N. C.	5	50	w.	Pittsburg, Pa.	5	52	w.
Do.	29	50	sw.	Point Reyes Light, Cal.	7	58	nw.
Jacksonville, Fla.	29	62	sw.	Do.	8	67	nw.
Key West, Fla.	1	50	w.	Do.	9	52	nw.
Lincoln, Nebr.	24	51	w.	Do.	13	50	nw.
Marquette, Mich.	16	54	sw.	Do.	14	53	nw.
Memphis, Tenn.	24	52	nw.	Do.	21	84	nw.
Do.	26	54	nw.	Do.	23	52	nw.
Modena, Utah	11	50	sw.	St. Louis, Mo.	1	50	ne.
Do.	12	52	sw.	Sand Key, Fla.	1	57	nw.
Do.	22	50	sw.	Toledo, Ohio	5	51	w.
Mount Tamalpais, Cal.	7	54	nw.	Valentine, Nebr.	13	54	e.